

REMARKS

Reconsideration of the above-referenced application in view of the above amendment, and of the following remarks, is respectfully requested.

Claims 1-8 and 16-20 are pending in this case. Claims 2 and 18 are amended herein and claims 9-15 are cancelled herein.

The Examiner objected to the specification for clarity with respect to specifically listed fluorocarbon gases. Paragraph [0021] is amended herein to clarify the invention.

The Examiner objected to claim 2 due to an informality. Claim 2 is amended to correct the informality.

The Examiner rejected claims 2, 18 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 2, claim 2 is amended to remove the confusion added by the fluorocarbon names, leaving the fluorocarbon chemical formulas.

Regarding claim 18, the claim refers to "said material layers", referring to the material layers formed on the substrates. As explained beginning at paragraph [0039], when there is a variation in the thickness of layers simultaneously deposited on the multiple substrates placed in the chamber, this indicates that a "wipe cleaning out" should be performed. As more and more deposits build up on the chamber surfaces, the quality of the tool suffers, resulting, in this case, in wafer-to-wafer variation.

Applicant respectfully requests that the rejection under section 112 now be withdrawn.

The Examiner rejected claims 1, 2, 4, 5, 7, 16-20 under 35 U.S.C. § 103(a) as being unpatentable over Seamons et al. (U.S. Patent 6,060,397) in view of Law et al. (U.S. Patent 4,960,488).

Applicant respectfully submits that claim 1 is patentable over Seamons in view of Law as there is no disclosure or suggestion in the references of, in a process for cleaning a deposition chamber having multiple substrate stations contained therein, a first cleaning step that includes maintaining a deposition chamber at a first pressure while passing a fluorocarbon gas into said deposition chamber, the first cleaning step conducted until an endpoint is reached; a second cleaning step that includes maintaining the deposition chamber at a second pressure while passing the fluorocarbon gas into the deposition chamber; and a third cleaning step that includes maintaining the deposition chamber at a third pressure less than the first and second pressures while passing the fluorocarbon gas into said deposition chamber. Both Seamons and Law teach single wafer processing tools, rather than batch or multiple wafer processing tools. As noted in paragraph [0005] of the instant application, different considerations affect multiple substrate tools versus single substrate tools. Thus, it would not necessarily be obvious to one of ordinary skill in the art to apply a clean process for a single wafer tool to a multiple wafer tool.

Furthermore, Seamons teaches 1 and 2 steps cleaning processes and Law teaches a 2 step cleaning process. There is no disclosure or suggestion of a 3 step cleaning process as claimed. While Seamon refers to its two-step process as a multi-step process, only two steps are taught. Although Law teaches that the first step of the 2-step process may be repeated, this does not accomplish the claimed three-step process. The claim requires the first step continuing until an endpoint is reached. Referring to Figure 1 of the instant application, continuing a step until an endpoint is reached (steps 110 and 180) is equivalent to repeating a first step until the desired

result/endpoint is obtained. The combined references do not disclose or suggest performing a first clean step until endpoint and performing a second and third clean step. Accordingly, Applicant respectfully submits that claim 1 and the claims dependent thereon are patentable over the references.

Applicant respectfully submits that claim 16 and the claims dependent thereon are similarly patentable over the references.

The Examiner rejected claims 3, 8 under 35 U.S.C. § 103(a) as being unpatentable over Seamons et al. (U.S. Patent 6,060,397) in view of Law et al. (U.S. Patent 4,960,488) and in further view of Richardson et al. (U.S. Patent 7,028,696).

Applicant respectfully submits that claims 3 and 8 are patentable over the references for the same reasons discussed above relative to claim 1. Richardson is not added to teach a 3 step clean process.

The Examiner rejected claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Seamons et al. (U.S. Patent 6,060,397) in view of Law et al. (U.S. Patent 4,960,488) and in further view of Cheung et al. (U.S. Patent 5,158,644).

Applicant respectfully submits that claim 6 is patentable over the references for the same reasons discussed above relative to claim 1. Cheung is not added to teach a 3-step process.

The other references cited by the Examiner have been reviewed with the exception of KR 2001055460, but are not felt to come within the scope of the claims as amended. KR 2001055460 contains no English abstract.

In light of the above, Applicant respectfully requests withdrawal of the Examiner's rejections and allowance of claims 1-8 and 16-20. If the Examiner has any questions or

other correspondence regarding this application, Applicant requests that the Examiner contact Applicant's attorney at the below listed telephone number and address.

Respectfully submitted,

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